QUEST SELF-ASSESSMENT CHECKLIST for SHOPS

GENERAL SAFETY

Is the name of the Shop Manager and shop use policy posted on the shop door? Talk to the Shop Manager. Does the Shop Manager have readily available documentation of who has been authorized to use the shop?

Do all entrances to shops have signs next to doors describing hazards, PPE requirements, and contact people? Are there any outdated or non-standard signs? ***Contact the Area Safety Lead to update door signs. Check bulletin boards and remove any outdated materials.***

Is appropriate PPE (safety glasses, shop coats, gloves, etc.) conveniently available, properly stored, and in good condition in areas where it is required? Are closed-toed shoes worn in all shop areas and safety shoes worn where heavy or sharp objects could cause injury?

Are food and beverages kept out of shops? Is there a conveniently located and clearly marked room or area where food and beverages are allowed to be consumed?

Are sharp cutting tools (razor blades, scalpels, knives, etc.) stored with the blade covered? Are there red sharps disposal containers available near where sharps are used?

Are ladders clean and in good condition, with non-slip safety feet?

Check the chairs in your area. Are there any other damaged or defective chairs or stools that need replacement?

EMERGENCY PREPAREDNESS

Are copies of the Emergency Response Guide (red/orange/yellow flip chart) posted? Is the site specific information (red tabs in the Guides) filled out and correct? ***Tip: contact Pat Thomas for copies of the Emergency Response Guide.***

Are there any outdated or non-standard signs that need to be removed? Check bulletin boards and remove any outdated materials.

Talk to your Building Emergency Team Leader(s):

-- Are there Emergency Team members assigned to sweep each area that may need to be evacuated?

-- Have Emergency Team members completed required training?

-- Has the Building Emergency Team held or scheduled a hands-on drill during FY14 (in addition to the Lab-wide earthquake exercise)?

-- Do all team members know how to use the emergency radio?

-- Is there an up-to-date list of Building Emergency Team members?

-- Is there a current Building Emergency Plan available?

-- Do all team members know where the nearest trauma kit and emergency equipment box are located? Does the Emergency Team Leader have a key to the emergency equipment box? Are the supplies in the Trauma Kits and Emergency boxes adequate and up-to-date? ? Have you received the small, clear plastic Trauma Kits?

Are aisles, walkways, stairways, and exit doors unobstructed? Is the area free of tripping hazards?

Check the area outside your building. Are there any burned-out lights, tripping hazards, worn or damaged steps, or other conditions that make walking hazardous? Are there any areas where traffic / bicycle / pedestrian safety could be improved?

Have all heavy objects (furniture, computers, large equipment) that could fall during an earthquake been secured safely (no bungee cords)?

Is fire extinguisher access unobstructed? Are the types of fire extinguishers appropriate to the type of fire you might have in the areas (A= ordinary combustibles, B=flammable liquids, C=electrical, D=metals)?

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Is there a current permit from the Fire Department in place for any operation that produces flames, sparks, or heat (welding, heat treating, grinding, thawing pipe, powder-driven fasteners, hot riveting, etc.)?

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Have eyewashes and safety showers been inspected within the last 3 months? Are they in good condition? Is access unobstructed? Are eyewashes located so that someone with chemicals in their eyes would be able to reach the eyewash within 10 seconds?

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Are there adequate numbers and types of spill kits (e.g., flammable, acid, and base) available in work areas?

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Where emergency lights are easily reachable without climbing ladders, test by depressing button. Are all emergency lights in operating condition?

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Are there any types of shop work in your area that should not be performed alone? This might include work with significant hazards where a person might become so severely injured that they could not summon help, work in a location where a person would not be seen if they were incapacitated, or work by people who are inexperienced or unfamiliar with the area. Does your group have documented rules for any work that should not be performed alone?

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ELECTRICAL SAFETY

Is access to electrical panels, including breaker boxes and disconnects, unobstructed? Is the working space for accessing electrical panels and electrical equipment at least 3’ wide x 3’ deep x 6.5’ high? (Note: equipment >150V will require additional clearance – contact a QEW to check).

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Does each electrical panel have a schedule posted nearby indicating the purpose of all breakers and disconnects? Are all breakers and disconnects numbered or otherwise identified?

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Are electrical panels and breaker boxes in good condition (intact, screws in place, door latches work, no materials stored on top)?

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Are all wall-mounted plug strips, receptacles and outlets in good condition? Are outlets near machines protected from metal chips?

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Are labeled ground fault circuit interrupters (GFCIs) located on electrical outlets near water outlets and other areas where they may get wet?

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Test your GFCIs. Testing a GFCI is very simple and can be done safely by anyone. Apply a load (plug something in) to the GFCI, press the TEST button. Does the power trip off? Press the RESET button. Does it come back on? Are any of the buttons stuck?

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Are power / extension cords in good condition (ground prong, jackets in good condition, no frayed insulation or exposed wiring, no evidence of modification)? Are unused extension cords rolled up and stored properly?

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Are electrical feeds to machines in good condition and grounded?

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Are power/ extension cords used properly (appropriate for the load, covered with a bridge if in walkways);

NOT:

- draped over furniture or fire sprinkler lines,
- extending through doors or windows,
- attached to walls with staples,
- used to support the weight of equipment,
- more than 2 extension cords attached together?

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Have any extension cords been in use for longer than 1 month?

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Are relocatable power taps (plug strips) in good condition and used properly?

NOT:

- used outdoors,

- c
  onnected to another power tap or more than 1 extension cord,
- p
  ermanently attached,
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  onnected to equipment over 600 Watts/5 amps (such as heaters, cooking appliances, or fans) unless specifically rated for the load]?

Are portable metal ladders clearly labeled "Do Not Use Around Electrical Equipment" and kept away from areas where the ladder or person using the ladder could come in contact with energized equipment?

Are electrical conduits free of attached cord, lines, equipment, decorations or other materials?

Is electrical equipment that is within 6 ft. of a safety shower/eyewash, sink, or other source of splashing either rated for use in a wet environment or protected by a GFCI?

Is electrical equipment on metal carts or tables bonded, and grounding provided for metal carts used for electrical equipment?

Is someone assigned and trained to survey non-NRTL electrical equipment in your area? Is there any non-NRTL equipment that has a potential of 50 Volts or greater anywhere in the equipment that has not been inspected and approved by the Electrical Equipment Inspection Program?

MACHINE GUARDING AND CONTROLS

Check all machine tools that have reasonably accessible points of operation, pinch and nip points, rotating parts, and flying chip or spark hazards that may expose an employee to injury. Have all these hazards been guarded to prevent injuries:

-- Points of operation (cutting, shaping, boring, bending, punching, etc.)

-- Power transmission apparatuses (pulleys, belts, flywheels, couplings, cams, spindles, chains, cranks, gears, etc.)

-- Nip and pinch points

-- Entanglement hazards

-- Chips/flying materials, splashes, or sparks?

Do the guards themselves pose a safety hazard?

Tip: See ES&H Manual, Chapter 25, Appendix B for examples or contact Mike Wisherop for assistance.

Are starting and stopping controls within easy reach of the operator? Are machines protected from restarting automatically after a power interruption?

For grinders, does the guarding cover at least 75% of the wheel, including the spindle nut? Is the work rest adjusted closely to the wheel with a maximum clearance of 1/8 inch, and the adjustable tongue or end of the peripheral member at the top of the housing adjusted to within ¼ inch of the wheel?

For vertical band saws, is the guard lowered to the table when not in use?

Are machines designed for a fixed location securely anchored to prevent movement?

Is there sufficient clearance around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?

CRANES, HOISTS, and FORKLIFTS

Is there a current, qualified employee designated as Crane Manager for each crane or hoist?

Is any electric powered crane that is not attended by a qualified operator for an entire shift and during off hours secured by locked controls, or equivalent means such as preventing access to the crane by locking the doors, or locking up radio controls?

Is secondary lifting gear in good condition?

Are all LBNL proof load tags and inspection stickers current? Does the load limit on the tag match the marking on the crane/hoist? Is the rated load of each crane/hoist legibly marked and visible to the operator?

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Have all active lifting devices (such as screw pin shackles, hoist rings, commercial equipment, etc.) and fixtures (such as spreader bars, special slings, equipment designed at the Laboratory, etc.) undergone a Non-Destructive Examination within the last 4 years? Are all inactive lifting devices and fixtures clearly marked “STOP DO NOT USE”?

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Are the controls of hoists plainly marked to indicate the direction of travel or motion?

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Is there a daily inspection tag or logbook? Is it being filled out whenever the crane/hoist is in use? Are cranes inspected at least once a month (whether or not they are used)?

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When forklift trucks are left unattended, are the forks lowered, controls neutralized, hand brake set, wheels chocked, and keys removed from the ignition?

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CHEMICAL SAFETY

Are floors and work surfaces free of chemical residues?

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Are chemical containers and gas cylinders labeled with name of chemical contents and hazard?

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Have chemicals been entered into the Chemical Management System? (Check for a barcode on the container or on a Multi-Container Inventory Sheet posted nearby.) Have chemicals >1 gallon inside equipment been inventoried (bar code on Multi-Container inventory sheet, or entered into Hazards Management System database)?

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Do workers know how to find and use Material Safety Data Sheets or Safety Data Sheets? *Pick a chemical container or gas cylinder. Ask a worker in the area to show you the MSDS/SDS and identify the hazards of the chemical.*

- Does the worker know what an MSDS or SDS is?
- Can they quickly produce a current MSDS or SDS (either hard copy or from the website)?
- Can they find the hazard information?

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Are chemicals and gases stored properly?

- Acids separated from bases?
- Corrosives (acids and bases) separated from flammables and toxics?
- Acetic acid stored with flammables?
- Flammables >10 gal. stored in flammables cabinet?
- Flammables and gas cylinders protected from heat and sources of ignition?
- Stored in approved containers, tightly closed and covered when not in use?
- Containment pans under liquids?
- Gas cylinders secured by metal bracket, top and bottom chains, or on a cart secured to prevent rolling or tipping?
- Regulators removed from gas cylinders not in use?
- Chemicals and gases stored away from stairs and exits?
- Overhead storage shelves equipped with shelf lips or latched doors?
- Hazardous liquids stored away from sinks and drains?

Has the performance of local ventilation systems been checked within the past two years (signed and dated inspection sticker?

For cryogens, has the Oxygen Deficiency Hazard been evaluated?

HAZARDOUS WASTE and SATELLITE ACCUMULATION AREAS

Are nitric acid wastes being generated that may require bench- top treatment (reaction mixture or aqueous solutions >5% HNO_3 by weight, 0.8M, or pH <1, or any organic or metal contaminants)? Is there an approved bench top treatment procedure in place?

Is the Satellite Accumulation Area (SAA) near the point the where the waste is generated? Can access to the SAA be controlled by the responsible person (locked up or within visual contact from work area?)?

Has an SAA sign been posted at each hazardous waste accumulation area? Has the sign been filled out completely and accurately with the name of the responsible person, building/room, telephone number, and type of waste?

Is there a Hazardous Waste label attached to each container? Is the label filled out with the name and phone number of the generator, building/room location, type of waste, hazards, waste form (solid/liquid), and accumulation start date?

Are there any wastes that have been in the SAA for more than 9 months?

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Are all waste containers in good condition (not leaking, bulging, etc.)?

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SUSPECT/COUNTERFEIT PARTS

Do key shop personnel know how to identify and report suspect parts? (How long since they received training?)

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Are periodic inspections of facilities, equipment, spaces and parts stocks being conducted to identify suspect parts?

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Are high strength fasteners (bolts, nuts, screws, and washers) certified and controlled since purchase? Are certifications for installed high-strength fasteners available for review?

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Are the following types of items assessed for possible suspect/counterfeit parts when received through procurement or obtained from other groups:

- High-strength fasteners (bolts, nuts, screws, washers);
- Electrical/electronic components (circuit breakers, current and potential transformers, fuses, resistors, switch gear, overload and protective relays, motor control centers, heaters, motor generator sets, DC power supplies, AC inverters, transmitters, computer components, semiconductors);
- Piping components (fittings, flanges, valves and valve replacement products, couplings, plugs, spacers, nozzles, pipe supports);
- Pre-formed metal structures;
- Elastomers (O-rings, seals);
- Spare/replacement kits from suppliers other than the original equipment manufacturer;
- Weld filler material;
- Diesel generator speed governors; and
- Pumps?

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SHOP WORK BEHAVIOR OBSERVATIONS and DISCUSSION

(NOTE: Any observations of unsafe behaviors should be noted without using names of people observed – just note the location.)

Lifting: tests weight before lifting; gets help with large/awkward items; avoids awkward body positioning; bends knees when lifting; avoid bending over, twisting, overextending; checks path for hazards before carrying

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PPE: wears protective equipment required in shop and appropriate to the job. Consider eye/face protection (goggles, face shield, safety glasses), gloves, hearing protection, foot protection, respiratory protection, clothing (shop coat, coveralls, apron).

Procedures: plans work, identifies hazards, ensures controls are effective, gets permits/work authorizations, checks condition of equipment before using, follows written procedures, obeys signs, performs LOTO when needed, leaves equipment and work area in clean and safe condition

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Tool use: selects the right tool for the job; only uses tools and equipment the worker is trained and authorized to use; ensures tools are in good condition and guards in place before using; uses proper techniques; does not work alone in shop

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